U.S. GEOLOGICAL SURVEY
CHARLES D. WALCOTT, DIRECTOR

AREAL GEOLOGY

YELLOWSTONE NATIONAL PARK - WYOMING

LAKE SHEET

LEGEND
(continued)

NEOCENE

- **Nlbb** — Late basic breccia *(rocks of similar mineral composition, to the early basic breccia, but of later age)*
- **Nlab** — Late acid breccia *(rocks of similar mineral composition, to the early acid breccia, but of later age)*
- **Ntrh** — Trachytic rhyolite *(occurs in isolated lava flows; rocks always light-colored; carries biotite, a mica which the rhyolite does not contain)*
- **Nebs** — Early basalt flows *(dark-gray or black rocks separating the earlier series of breccias from the later series of breccias)*
- **Nebb** — Early basic breccia *(fragments of pyroxene-andesite, hornblende-pyroxene-andesite, and basalt associated with lava flows of the same kinds of rocks)*

Faults

LEGEND

SURFICIAL ROCKS
(Areas of Surficial rocks are shown by patterns of dots and circles.)

PLEISTOCENE

- **Phs** — Hot Spring formations *(siliceous or calcareous deposits and solfataric areas)*
- **Pal** — Alluvium *(gravel and clay forming the stream bottoms and terraces along the valleys)*
- **Plc** — Lacustrine formation *(sand and gravel deposited during a higher stage of the lake)*
- **Pgd** — Glacial drift *(gravels, clays, and sands, distributed by glaciers of local origin)*

SEDIMENTARY ROCKS
(Areas of Sedimentary rocks are shown by patterns of parallel lines.)

EOCENE

- **Ep** — Pinyon conglomerate *(coarse, water-worn pebbles mingled with sand and gravel)*

CRETACEOUS

- **Kl** — Laramie formation *(sandstone and shale, deposited in shallow brackish waters)*
- **Km** — Montana formation *(including the "Fox Hills sandstone" and "Pierre shale," not generally distinguishable)*
- **Kc** — Colorado formation *(including the "Niobrara limestone" and "Benton shale," not generally distinguishable)*

JURATRIAS

- **Je** — Ellis formation *(arenaceous limestone, marls, clay, and thin beds of argillaceous limestone)*
- **Jt** — Teton formation *(cherty limestone, red clay, and sandstone)*

CARBONIFEROUS

- **Cq** — Quadrant quartzite *(white, compact, massive quartzite with interbedded white limestones)*
- **Cm** — Madison limestone *(massive, white or cream-colored limestone above dark, thin-bedded limestone)*

ALGONKIAN

- **As** — Sheridan quartzite *(dense, bluish-white quartzite)*

IGNEOUS ROCKS
(Areas of Igneous rocks are shown by patterns of triangles and rhombs.)

NEOCENE

- **Nbst** — Basalt *(dark-gray or black lava flows, the most recent volcanic rock)*
- **Nrh** — Rhyolite *(mainly massive flows covering the greater part of the Park, varying from a glassy to a stony structure)*
- **Nsyl** — Sylvan intrusives *(dike rocks varying from diorite to granite porphyry, breaking through late basic breccia, near Sylvan Pass)*
- **Nan** — Andesitic flows *(light-colored, hornblende-mica-andesite rocks)*

Legend is continued on the left margin.

Henry Gannett, Chief Geographer.
J. H. Renshawe, Geographer in charge.
Triangulation by H. S. Chase.
Topography by J. H. Renshawe.
Surveyed in 1885.

Scale 1/125,000
1 ½ 0 1 2 3 4 5 Miles
1 ½ 0 1 2 3 4 5 Kilometers
Contour Interval 100 feet.
Datum is mean Sea level.
Edition of April 1896.

Geology by
Arnold Hague, Geologist in charge,
Joseph Paxson Iddings, and
Walter Harvey Weed.
Surveyed 1883 to 89, 90, 91, and 93.